Project:	**1262**
Project title:	**Impact of Aerosol on Cloud Microphysics, Phase Partitioning and Precipitation Formation**
Project lead:	**Dr. Fabian Senf (TROPOS)**
Allocation period:	**1.1.2022 - 31.12.2022**

Overview

The project is dedicated to address the research question how the presence of aerosol impacts cloud microphysics, phase partitioning and precipitation formation in mixed-phased clouds. The influence of atmospheric aerosol particles on clouds is one of the main unknowns in climate projections. Particularly, the cloud glaciation process and its dependence on mineral dust and aerosol particles from other sources including anthropogenic origin are not well-understood. Thus, the basic idea is to apply detailed microphysical cloud simulations to realistic scenarios and use remote sensing observations to constrain simulated cloud characteristics.

Project Progress

The project was planned as internally-funded TROPOS project (under the shortcut MixedSH) and the job announcement was advertised at the end of 2021. It is difficult to say why (certainly the problematic conditions during the Corona pandemic played an important role), but we were unfortunately unable to find sufficiently qualified personnel for the planned position and had to refrain from re-advertising the position for other internal reasons. Due to the resulting limitations in personnel resources, we had to decide to postpone the planned scientific investigation and, following the user recommendations of DKRZ [1], returned the majority of the planned resources (99.4% of nodehours) back to the user community unused. Nevertheless, it is planned to conduct important and exciting scientific investigations using cloud microphysical modeling in the upcoming application phase within this project (see next compute time/resources proposal).

[1] https://docs.dkrz.de/blog/2022/can-i-get-my-compute-time-back.html